

Bureau of the Census, U.S. Department of Commerce

# Small Area Income and Poverty Estimates: 2015

December 14, 2016

# Small Area Income and Poverty Estimates (SAIPE): 2015

## Introduction

This document presents summary highlights of the 2015 data released by the Small Area Income and Poverty Estimates (SAIPE) program of the U.S. Census Bureau in December 2016. Each year, the SAIPE program provides timely, reliable estimates of income and poverty for the administration of Federal programs and the allocation of Federal funds to local jurisdictions and school districts. SAIPE is the only source of data on single-year median household income and poverty statistics for the 3,141 counties and 13,236 school districts in the United States.<sup>1</sup> Some state and local programs also use SAIPE income and poverty estimates to distribute funds and manage programs.

The Census Bureau and other Federal agencies created the SAIPE program to provide annual income and poverty statistics for states, counties, and school districts in the United States.<sup>2</sup> The SAIPE program produces yearly poverty estimates for the total population (all ages) and by selected characteristics for counties and states. These estimates include the number of children under age 5 in poverty (for states only), the number of related-children aged 5 to 17 in families in poverty, the number of children under age 18 in poverty, and median household income.

The Department of Education uses SAIPE data to aid in determining annual Title I allocations of Federal funds to states and school districts. At the school district level, estimates are generated for the total population, the number of children aged 5 to 17, and the number of related-children aged 5 to 17 in families in poverty.

Due to the comprehensive geographic coverage and one-year focus, SAIPE data can be used to analyze geographic variation in poverty and income, as well as changes over time. The purpose of this document is to highlight several key aspects from such analysis.<sup>3</sup>

<sup>1</sup> There were 3,142 total counties in the United States. Kalawao County, HI was omitted due to small sample size. There were also 13,245 school districts in the United States; however, nine were excluded due to lack of school-age children.

<sup>2</sup> For more information on the creation of the SAIPE program visit: <https://www.census.gov/did/www/saipe/about/origins.html>

<sup>3</sup> All data shown are estimates containing uncertainty. Unless specifically noted in the text, apparent differences among the estimates may not be statistically significant. All direct comparisons cited in the text have been statistically tested at the 10 percent significance level. See text box on page 4 for additional information on the sources of uncertainty.

## Highlights

- Median household income at the county level ranged from \$22,894 to \$125,900 with a median county-level value of \$46,800.
- Based on poverty rate estimates for the 3,141 counties for all ages, 18 percent of counties (569) had a statistically significant increase in poverty between 2007, the year before the most recent recession, and 2015. Only two percent of counties (63) had a statistically significant decrease in poverty during that period.

**Small Area Income and Poverty Estimates (SAIPE)** are model-based enhancements of the American Community Survey (ACS) estimates created by integrating additional information from administrative records, intercensal population estimates, and decennial census data. SAIPE methodology employs statistical modeling techniques to combine this supplemental information with survey data to produce estimates that are more reliable. SAIPE are broadly consistent with the direct ACS estimates, but with help from other data sources, SAIPE estimates are more precise than the ACS 1-year and 5-year survey estimates for most counties and school districts. ACS 1-year estimates are not available for most of these smaller geographic areas (approximately only 800 counties with a population of 65,000 or more are included in the ACS 1-year estimates). A 2015 ACS map of unpublished counties is available at: <https://www.census.gov/did/www/saipe/data/statecounty/maps/2015.html>.

Additional detailed information on the various input data sources used in producing SAIPE is available at: <http://www.census.gov/did/www/saipe/data/model/index.html>.

SAIPE estimates are subject to several types of uncertainty. Details on SAIPE methodology are available at: <http://www.census.gov/did/www/saipe/methods/index.html>.

# County-level Estimates

## Median Household Income

The 2015 SAIPE provides estimates for 3,141 counties in the United States. At the county level, median household income ranged from \$22,894 to \$125,900 with a median value of \$46,800.<sup>4</sup>

Figure 1 highlights the range of median household income throughout the United States. Seventy-seven counties had a median income within the highest range (\$81,129 to \$125,900). Forty-two of these high-income counties were located in the Northeast region, Maryland, and Virginia.

Figure 1a depicts the metropolitan statistical areas (MSA) which includes Boston, New York, Philadelphia, Baltimore and Washington, D.C.<sup>5</sup> There were 33 high-income counties located within this corridor. Eighty percent of counties in the lowest income range (\$22,894 to \$38,139) were located in the South.

Figure 1a. Map insert (Boston MSA to DC MSA): 2015

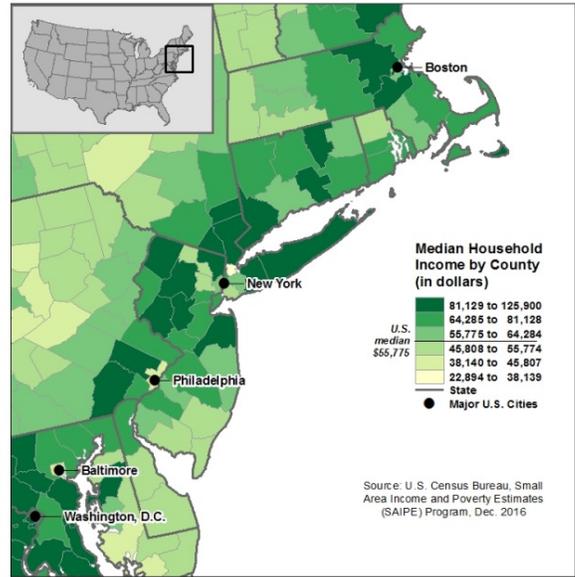
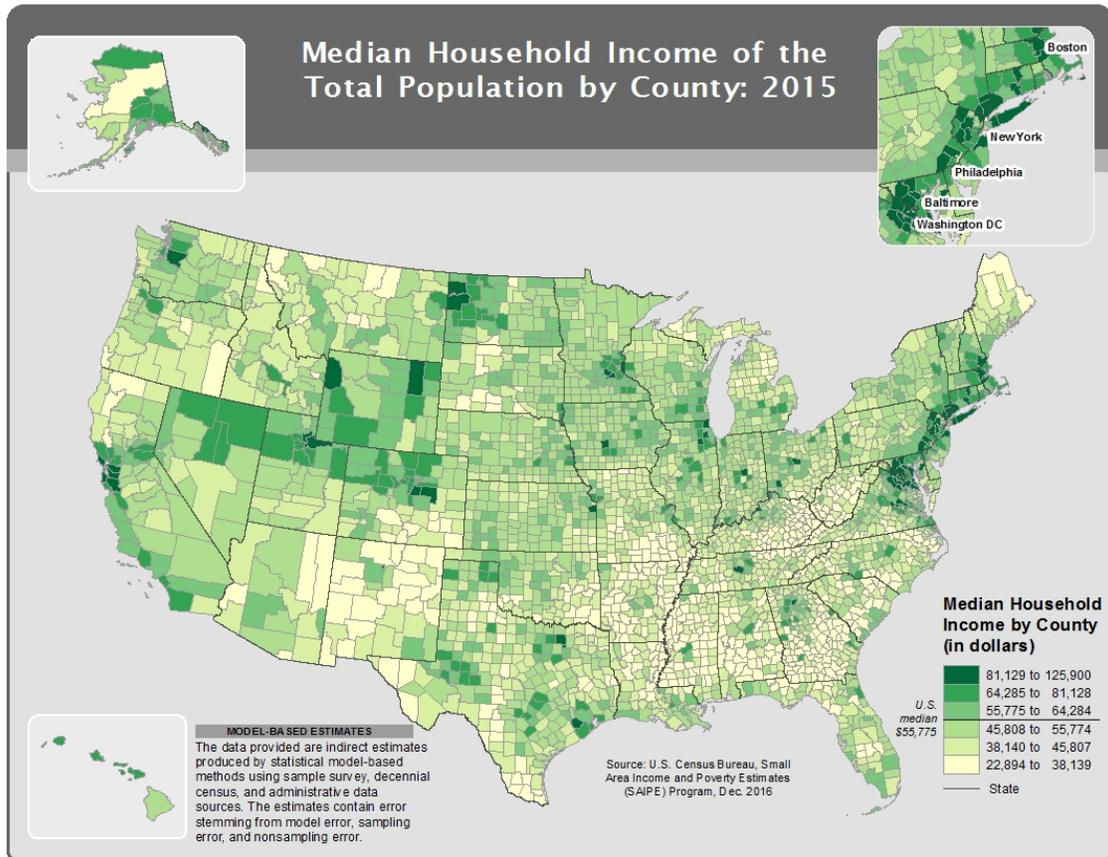


Figure 1. Median Household Income of the Total Population by County: 2015



<sup>4</sup> The median of county-level values (\$46,800) is not the same measure as the median household income in the United States. The legends in Figures 1 and 1a show the median household income for the nation (\$55,775).

<sup>5</sup> A reference map on metro/micro area status is available at: <http://www.census.gov/did/www/saipe/data/statecounty/maps/2015.html>.

From 2014 to 2015, more counties experienced an increase in median household income than a decrease. Figure 2 shows the percent change in median household income between 2014 and 2015. All changes were adjusted for inflation using the national Consumer Price Index (CPI-U) and are reported as calendar year 2015 dollars.

Seventy-four percent of counties (2,314) had an increase in their median household income, only 14.0 percent (440 counties) had a statistically significant increase. During the same period, 26.3 percent (827 counties) had a decrease in median household income, only 1.6 percent (51 counties) had a statistically significant decrease. In 22 states, more than fifteen percent of counties have a statistically significant increase in median household income between 2014 and 2015.

However, when comparing 2015 with 2007, the year before the most recent recession, more counties had a decrease in median household income than an increase.<sup>6</sup> Figure 3 shows the percent change in median household income between 2007 and 2015.

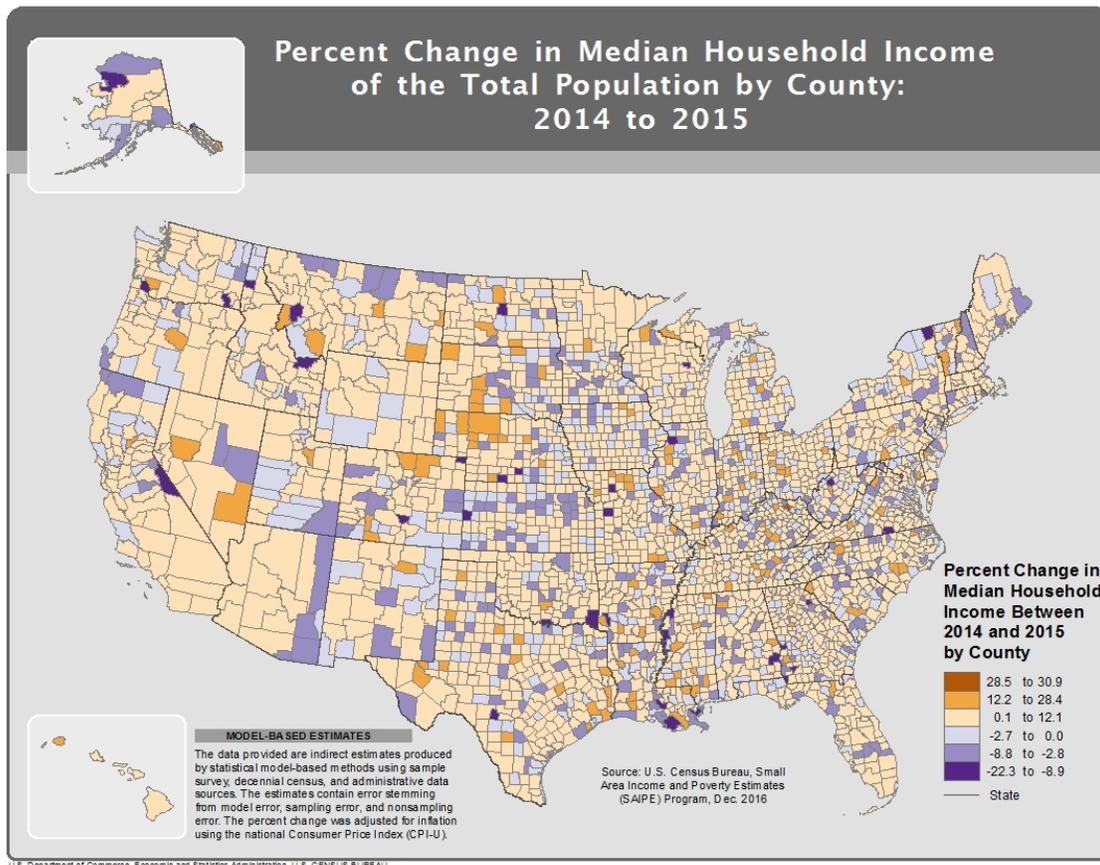
**Household income** includes income of the householder and all other people 15 years and older in the household, whether or not they are related to the householder.

**Median** is the point that divides the household income distributions into halves, one-half with income above the median and the other with income below the median. The median is based on the income distribution of all households, including those with no income.

**Related-children aged 5 to 17 in families** denotes children who are related to householder by birth, marriage, or adoption. Foster children are not included in families.

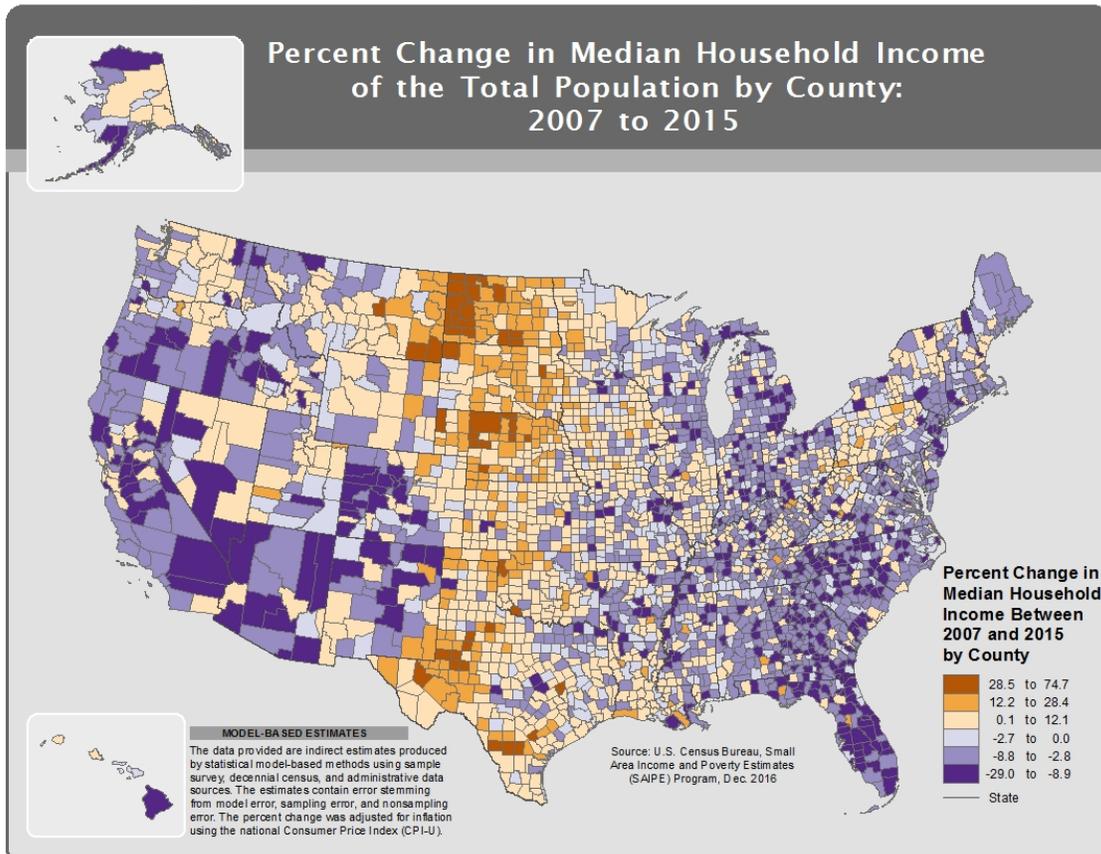
**School-age population** refers to children aged 5 to 17 who live within the geographic boundaries of a school district and who are in an appropriate grade range. It is not a measure of school district enrollment.

**Figure 2.** Percent Change in Median Household Income of the Total Population by County: 2014 to 2015



<sup>6</sup> The National Bureau of Economic Research (NBER) is the official source for recession timing. The NBER pinpoints December 2007 and June 2009 as the beginning and end of the most recent recession.

**Figure 3.** Percent Change in Median Household Income of the Total Population by County: 2007 to 2015



Between 2007 and 2015, 58.5 percent (1,836 counties) displayed a percent change in median household income ranging from -29.0 to 0.0 percent. In the same period, 41.6 percent of counties had a percent change ranging from 0.1 to 74.7 percent. Only 47 counties displayed a percent change in median household income in the top range of 28.5 percent or more, with 39 of these counties located in the Great Plains states of Nebraska, North Dakota, and Texas.

Of the 3,141 counties in the United States, 25.5 percent (802 counties) had a statistically significant change over the eight-year period. Of these, 57.9 percent (464 counties) had decreases in median household income. Clusters of counties with statistically significant decreases in median household income exist throughout all regions. Forty-two percent (338 counties) had a statistically significant increase in median household income between 2007 and 2015. North Dakota, South Dakota, and Nebraska contained the highest proportions of counties with median household income gains: 84.9 percent (45 counties), 50.0 percent (33 counties), and 50.5 percent (47 counties), respectively.

### Poverty

The SAIPE data also include poverty estimates for all counties in the United States. In 2015, county poverty rates for all ages ranged from 3.4 percent to 47.4 percent across counties. Figure 4 shows how poverty rates varied

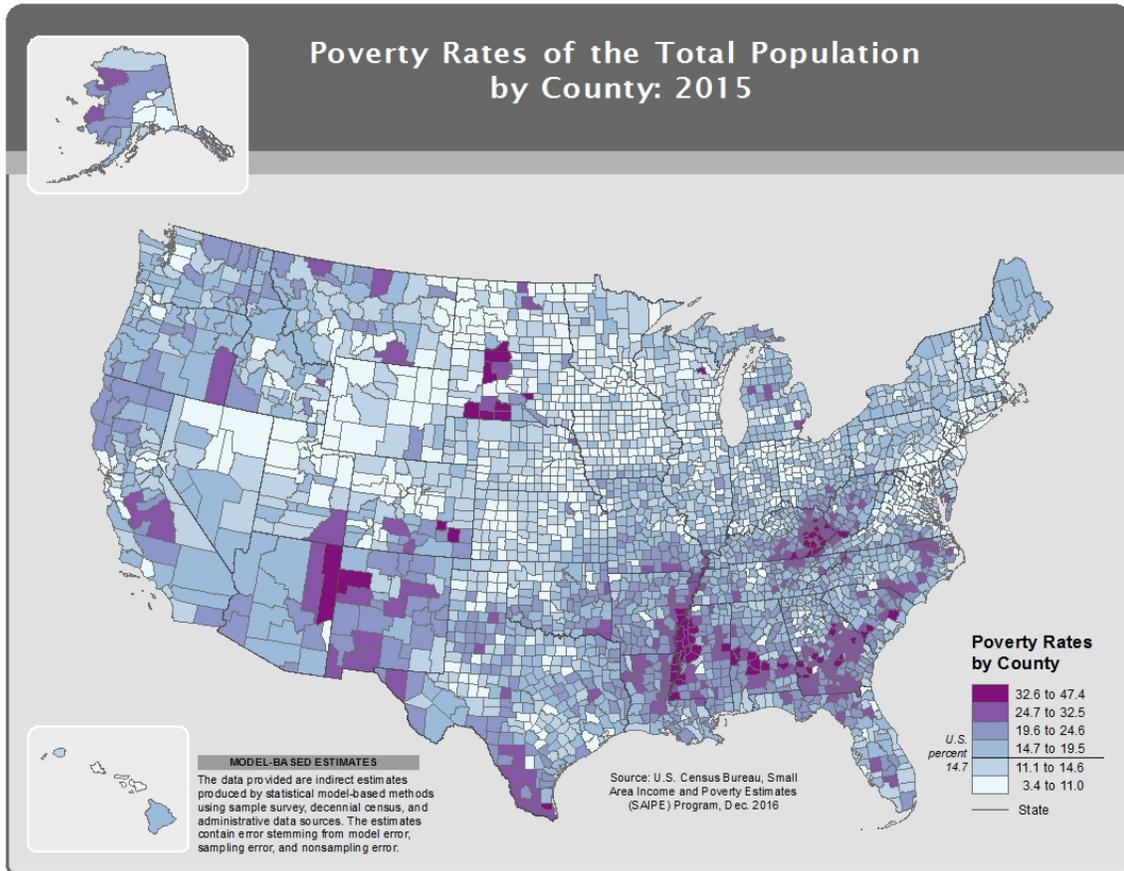
among counties throughout the United States. Counties with higher poverty rates were concentrated predominately in the South. Eighteen percent of counties within the South had poverty rates in the top ranges of the map legend (from 24.7 up to 47.4 percent), while each other region (West, Midwest, and Northeast) had no more than 6.0 percent of their counties with poverty rates in the top ranges. Most counties with lower poverty rates were concentrated in the Northeast and Midwest where over 70.0 percent of counties in each region were in the bottom ranges of the map legend (from 3.4 to 14.6 percent).

Figure 5 shows the poverty rate by county for related-children aged 5 to 17 in families. In 2015, 54.7 percent (1,717 counties) had poverty rates for related-children aged 5 to 17 above the group's U.S. poverty rate of 19.5 percent. Among these counties, 60.9 percent (1,045 counties) were statistically different from the national poverty rate.

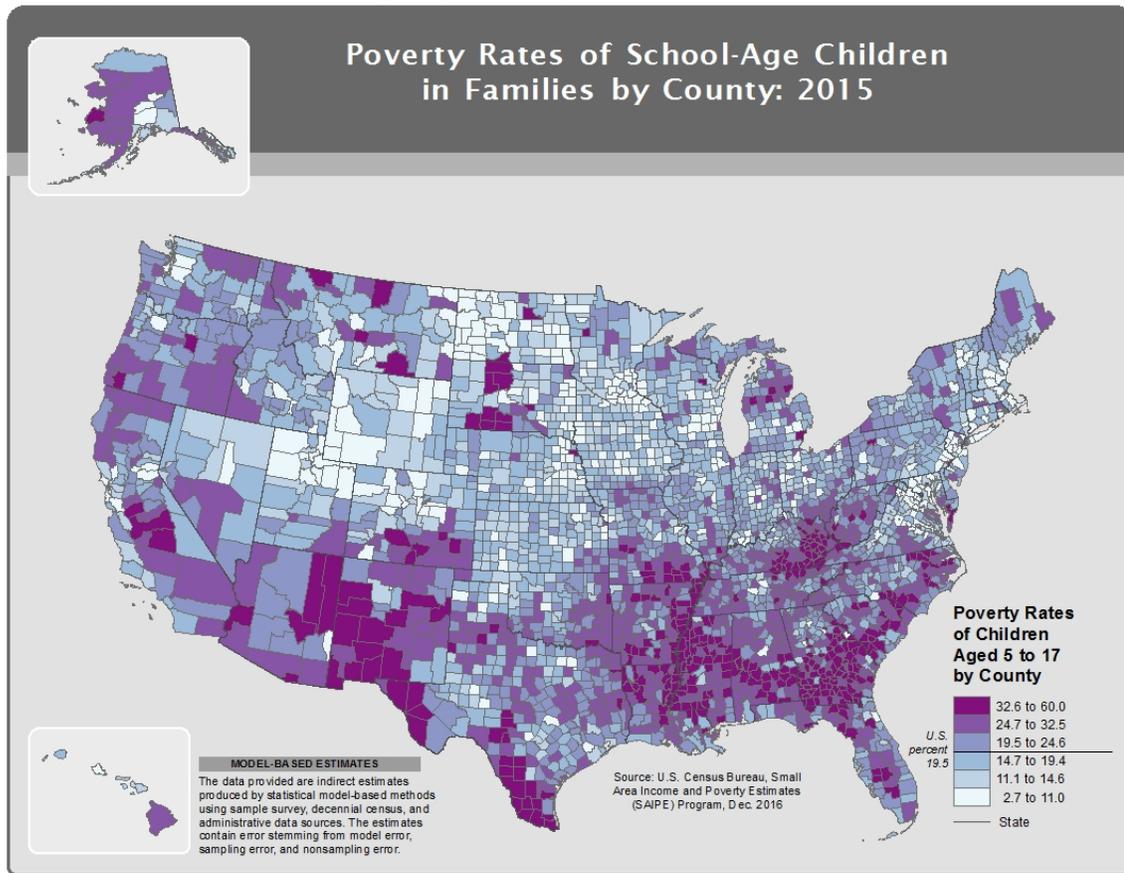
In Alabama, Georgia, Louisiana, Mississippi, and New Mexico, 70 percent or more of their counties' poverty rates were statistically greater than the national average. Seventy percent or more of counties in eight states had poverty rates for school-age children statistically lower than the national rate: Connecticut, Hawaii, Massachusetts, Minnesota, New Hampshire, North Dakota, Rhode Island, and Wyoming.

Thirty-four percent (1,063 counties) fell into the top two

**Figure 4. Poverty Rates of the Total Population by County: 2015**



**Figure 5. Poverty Rates of the School-Age Population by County: 2015**



ranges between 24.7 and 60.0 percent. Of the 1,063 counties, 73.8 percent (785 counties) were located in the South. Six states in the South had 65 percent or more of their counties within the top two ranges: Alabama, Arkansas, Georgia, Louisiana, Mississippi, and South Carolina.

### Change in County Poverty Rates

From 2014 to 2015, more counties had a decrease in their poverty rate than an increase. Figure 6 shows the change in county-level poverty rates for the total population between 2014 and 2015. Sixty-six percent (2,061 counties) experienced a decrease in their poverty rate, only 7.8 percent (244 counties) had a statistically significant decrease. Thirty-four percent (1,080 counties) had an increase in their poverty rate, only 1.5 percent (46 counties) had a statistically significant increase.

However, more counties have higher poverty rates in 2015 than in 2007, the year before the most recent recession. Figure 7 shows the change in county-level poverty rates for the total population between 2007 and 2015. Seventy-three percent (2,293 counties) displayed changes in their poverty rates ranging between 0.1 and 15.9 percentage points. Twenty-seven percent (848 counties) displayed a change in their poverty rate ranging from -17.2 to 0.0 percentage points. There were only 109 counties in the top legend range between 5.5 and 15.9 percentage points. Of these, 82.6 percent (90 counties) were in the South, with 30 counties in Georgia and 18 in Florida.

Of the 3,141 counties in the United States, 20.1 percent (632 counties) had statistically significant changes in their poverty rates between 2007 and 2015. Of these counties, 90.0 percent (569 counties) showed a statistically significant increase in poverty rate during the eight-year period. Approximately 10.0 percent (63 counties) had a statistically significant decrease in poverty rate during this period.

### Poverty by Region and Metro Status

Figure 8 compares the share of the total population and people in poverty by region and metro status. Among those living in poverty, 41.1 percent live in the South; in the West, 23.8 percent; in the Midwest, 19.7 percent; and in the Northeast, 15.5 percent. This is similar to the share of the total U.S. population that lives in each region.

Eighty-three percent of the people in poverty live in metropolitan areas, 9.8 percent live in micropolitan areas, and 6.9 percent live in non-metro/micro areas.

Figure 9 depicts county-level poverty data for all ages by region and the largest 25 metropolitan areas. The lighter shaded counties have poverty rates less than 20 percent, while the darker shaded counties have poverty rates of 20 percent or more. Twenty-four percent (755 counties) had

poverty rates greater than 20 percent, but only 10.0 percent (324 counties) were statistically greater than 20 percent. In the Midwest, 7.5 percent of counties had poverty rates of 20 percent or more; in the Northeast, 2.8 percent; in the South, 41.4 percent; and in the West, 18.1 percent.

### How is poverty measured?

Poverty status is determined by comparing total annual family before-tax income to a table of federal poverty thresholds that vary by family size, number of related children, and age of householder. If a family's income is less than the dollar value of the appropriate threshold, then that family and every individual in it are considered to be in poverty. For people not living in families, poverty status is determined by comparing the individual's total income to their threshold.

For more general information on poverty, please see: <http://www.census.gov/topics/income-poverty/poverty.html>.

The table of federal poverty thresholds is updated annually by the U.S. Census Bureau to allow for changes in the cost of living using the Consumer Price Index (CPI-U). The thresholds do not vary geographically.

SAIPE's primary input is the estimates of poverty from the American Community Survey (ACS), a monthly survey with people responding throughout the year. Since income is reported for the previous 12 months, the appropriate poverty threshold for each family is determined by multiplying the base-year poverty threshold (1982) by the average of the monthly CPI values for the 12 months preceding the survey.

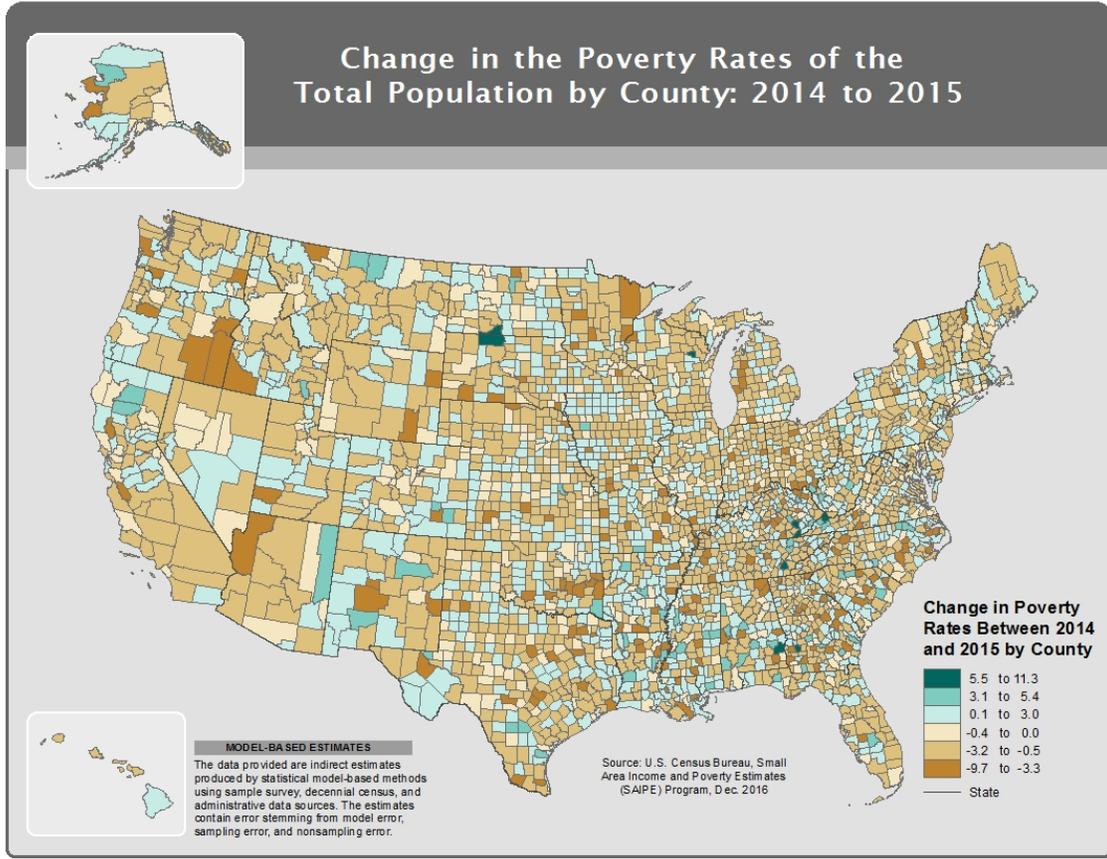
For more information, see "How the Census Bureau Measures Poverty" at: <http://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>.

### What are the sources of statistical uncertainty?

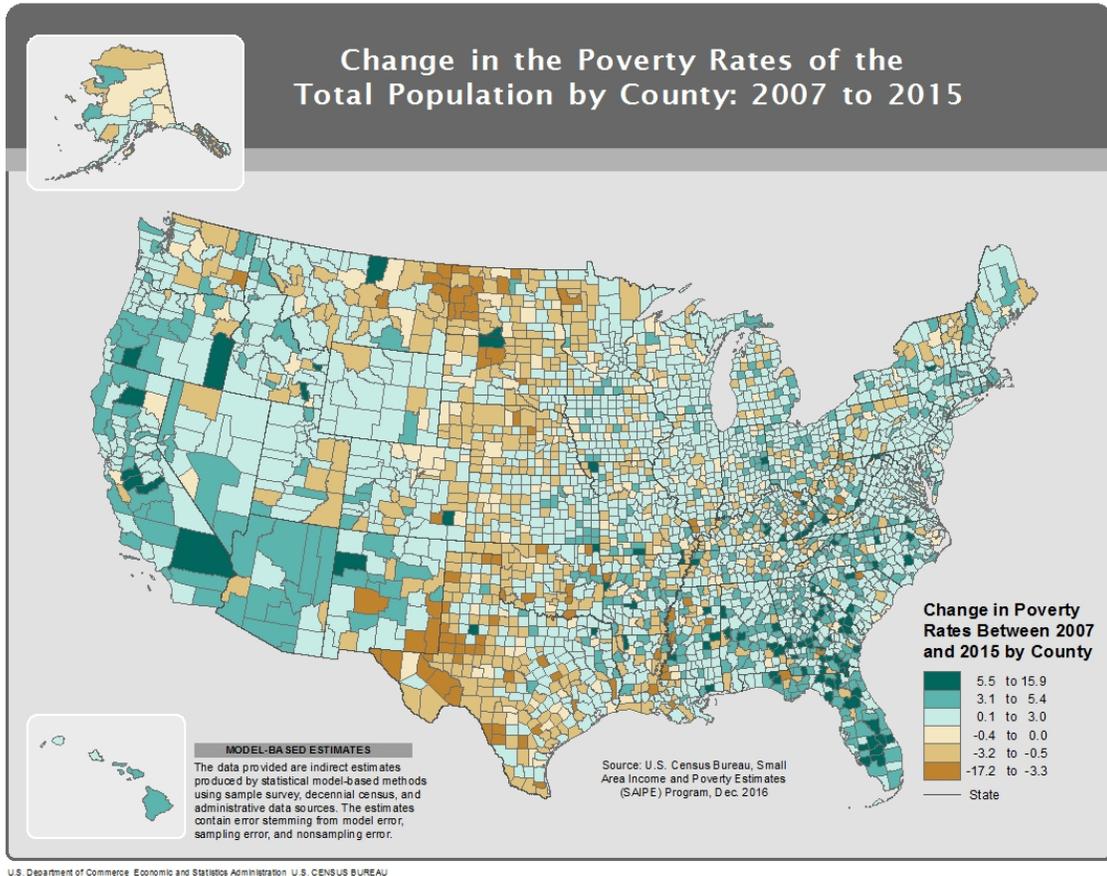
All data shown are estimates containing uncertainty. Sources of uncertainty include model error, sampling error, and non-sampling error. Confidence intervals for all state and county estimates are available at: <http://www.census.gov/did/www/saipe/data/statecounty/index.html>.

Guidance on the uncertainty contained in the school district estimates is available at: <http://www.census.gov/did/www/saipe/methods/schooldistrictuncertainty.html>. Unless specifically noted in the text, apparent differences among the estimates may not be statistically significant. All direct comparisons cited in the text have been statistically tested at the 10 percent significance level.

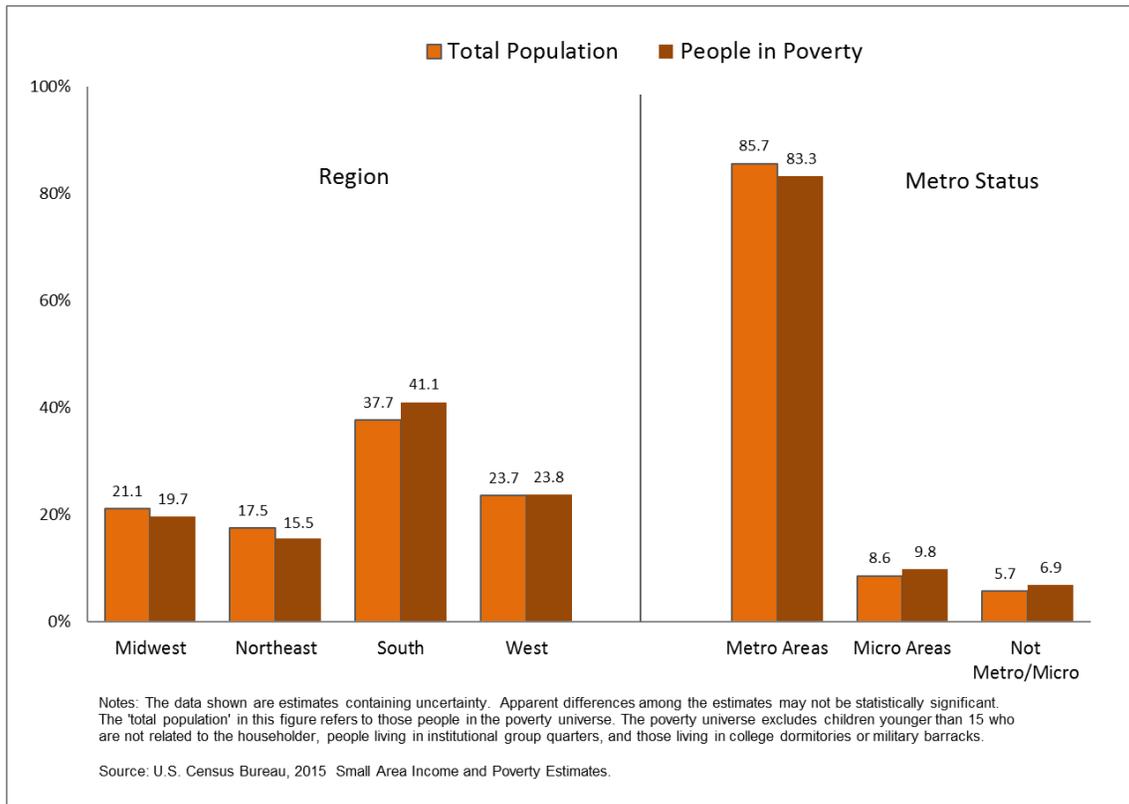
**Figure 6. Change in the Poverty Rates of the Total Population by County: 2014 to 2015**



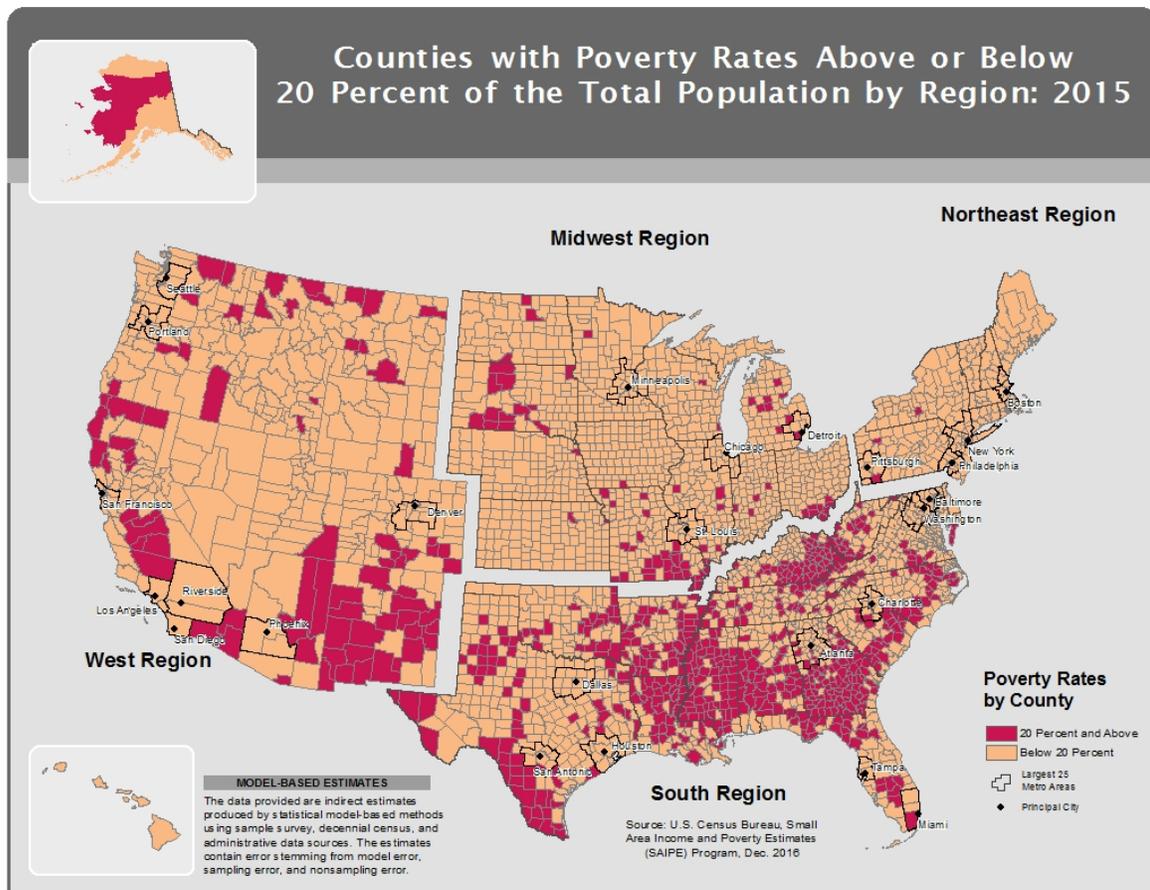
**Figure 7. Change in the Poverty Rates of the Total Population by County: 2007 to 2015**



**Figure 8.** Share of the Total Population and People in Poverty by Region and Metro Status: 2015



**Figure 9.** Counties with Poverty Rates Above or Below 20 Percent of the Total Population by Region: 2015



# School District Level Estimates

## Boundary Updates

To estimate the number of children living in poverty within a school district, the SAIPE program must obtain the most recent school district boundary updates. The SAIPE program provides funding for the Census Bureau's Geography Division to collect, update, and release biennial school district boundaries through its School District Review Program (SDRP).

In the latest SDRP update, there are 13,245 U.S. public school districts compared with 13,486 in the previous SDRP update. This net decrease of 241 school districts reflects the deletion of 329 previously defined school districts and the creation of 88 school districts. Since 2007, there has been a net decrease of 509 school districts. Changes in the number of school districts are typically the result of school districts shifting, splitting, or consolidating boundaries, which are often driven by state or local policy changes.

## Poverty

The 2015 SAIPE data utilize the newly updated school district boundaries effective as of January 1, 2016. This accounts for all school districts in the Title I universe.<sup>7</sup> Since nine school districts did not have any school-age children, these districts were excluded from the analysis (13,245 school districts in universe, but 13,236 school districts in the analysis).

Figure 10 shows the distribution of the number of school districts, the number of school-age children, and the number of school-age children in families in poverty by school district resident population size. School-age children, including school-age children in families in poverty, often were concentrated in school districts with a population of 20,000 or more. In 2015, an estimated 25.8 percent of school districts had a total population size of 20,000 or more. These school districts contained an estimated 81.6 percent of all school-age children in the nation and an estimated 82.6 percent of school-age children in poverty.

Figure 11 shows the distribution of school-age children (aged 5 to 17) living in families in poverty by school district. This map provides an overview of the variation in poverty throughout the United States by school district.<sup>8</sup> The lighter colors show school districts with lower poverty rates (0.0 to 19.4 percent) and the darker colors show school districts with higher poverty rates (19.5 to 100.0

percent). School districts with high and low poverty rates are scattered throughout the nation, with some clustering within regions.

## Why are the Small Area Income and Poverty Estimates Important?

The SAIPE data are designed primarily for use in the U.S. Department of Education's annual Title I allocations of Federal funds to states and school districts. Most school districts in the United States, about 93 percent, have a total population less than 65,000 and so do not have ACS 1-year estimates available. The SAIPE program was designed specifically to provide estimates for school districts in the United States on a yearly basis.

For additional detailed information on the use of SAIPE estimates, please visit the FAQ webpage at: <http://www.census.gov/did/www/saipe/about/faq.html>.

The SAIPE main page is located at: <http://www.census.gov/did/www/saipe/index.html>.

Additional information is available by data release year from 2005 to 2015. For example, annual highlights reports, datasets, maps, figures, and ranking tables can be downloaded from the SAIPE webpage at: <http://www.census.gov/did/www/saipe/data/index.html> or <http://www.census.gov/did/www/saipe/data/highlights/index.html>.

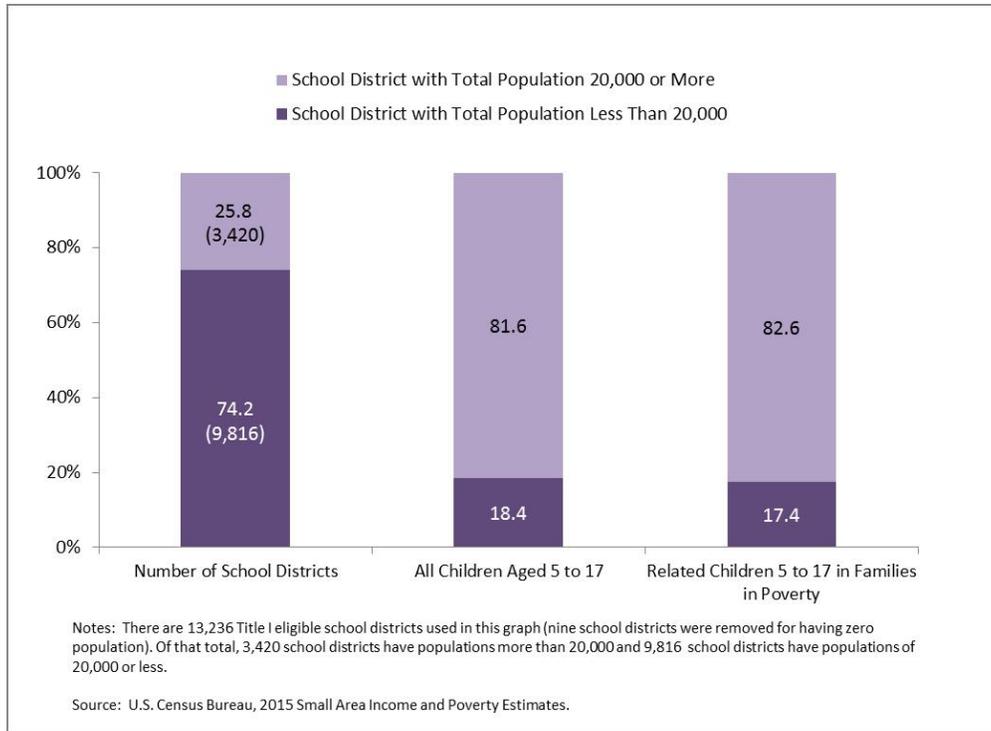
The online **SAIPE Interactive Data Tool** provides detailed customized data tables by selected year(s) from 1989-2015, geography (state, county, and school districts), poverty characteristics (all ages, under age 18, aged 5-17 in families, under age 5) and median household income. Data at the school district level are available by total population, number of school-age children (aged 5-17), and the number of school-age children (aged 5-17) in families in poverty. Maps showing school district boundaries are also available. These custom tables can be downloaded to a PDF or CSV file. The interactive data tool can be accessed online at: <http://www.census.gov/did/www/saipe/data/index.html>.

For video tutorials on SAIPE methodology, see: <http://www.census.gov/did/www/saipe/methods/index.html>.

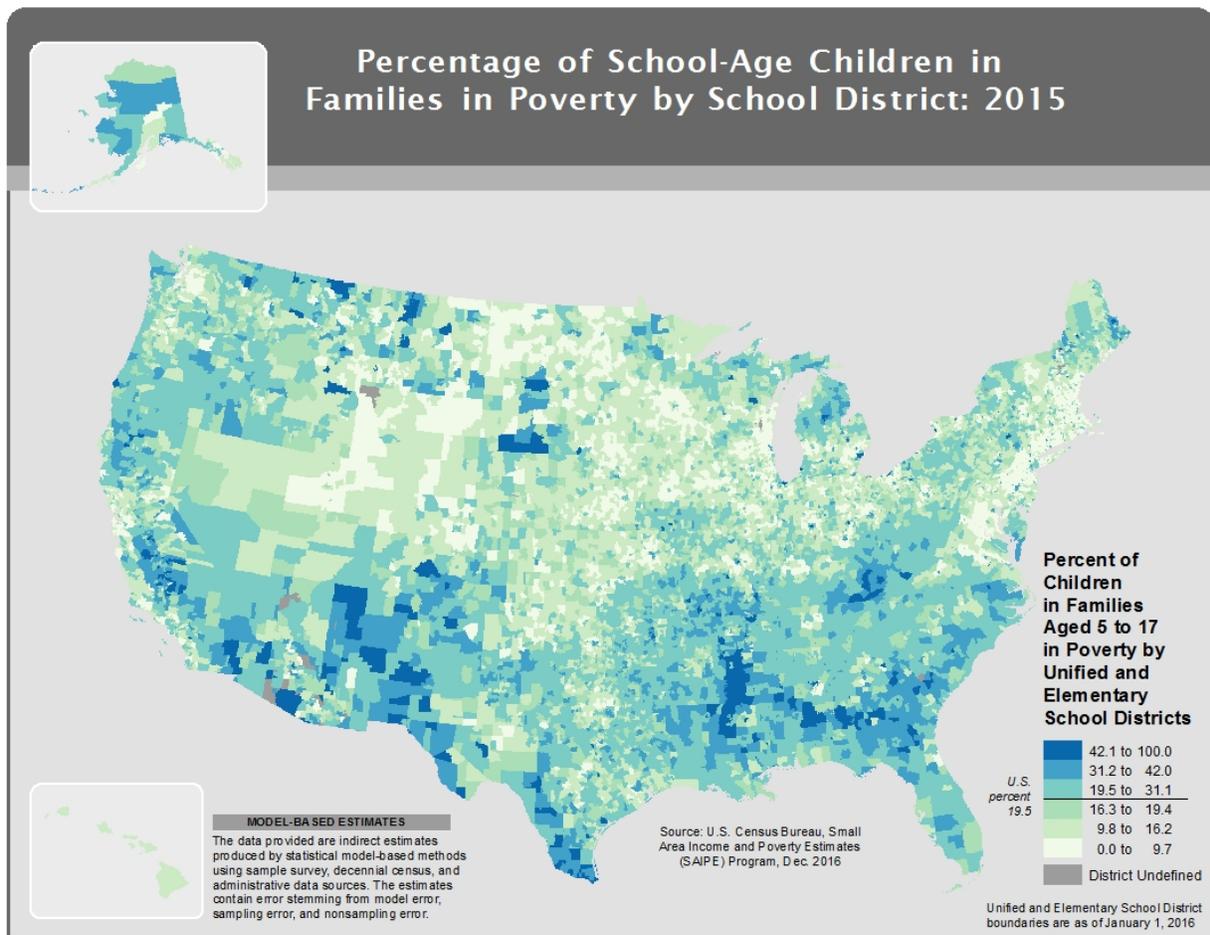
<sup>7</sup> The Title I universe is the set of U.S. school districts for which Title I of the Elementary and Secondary Education Act pertains.

<sup>8</sup> For a large-scale view, refer to the following link: <http://www.census.gov/did/www/saipe/data/statecounty/maps/2015.html>.

**Figure 10.** Distribution of School Districts, School-Age Children and School-Age Children in Families in Poverty by School District Population: 2015



**Figure 11.** Percentage of School-Age Children in Families in Poverty by School District: 2015



## Acknowledgements

The Small Area Estimates Branch of the Census Bureau prepared this document.

## Contact

For questions related to the contents of this document, including the SAIPE program's estimates and methodology, contact the Small Area Estimates Branch at: (301) 763-3193 or [sehsd.saipe@census.gov](mailto:sehsd.saipe@census.gov).

For questions related to income and poverty definitions, the American Community Survey, or other Census Bureau surveys, contact the Census Bureau call center at 1-800-923-8282 (toll free) or visit [ask.census.gov](http://ask.census.gov) for further information.

A related program to SAIPE is the Small Area Health Insurance Estimates (SAHIE) program, which produces estimates of health insurance coverage for all counties and states. Information about the SAHIE program is available at <https://www.census.gov/did/www/sahie/index.html>.

## Suggested Citation

U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE): 2015 Highlights, U.S. Government Publishing Office Washington, D.C.

## Income and Poverty Data Sources Available from the Census Bureau

SAIPE is one of several sources of income and poverty data available from the Census Bureau. Other sources include the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC), the American Community Survey (ACS), the Survey of Income and Program Participation (SIPP), and the Census 2000 Long-Form. Each of these sources differs from the others in various ways, such as the length and detail of its questionnaire, the number of households included (sample size), and the methodology used to collect and process the data. With its detailed questionnaire, the CPS ASEC is the source of both the official national estimates of poverty rates and of widely used estimates of the distribution of household income and individual earnings. The CPS ASEC provides a consistent historical time series at the national level beginning in 1959 and can also be used to look at state-level trends and differences (through multi-year averages) beginning in 1980.

Since 2006, the ACS has released annual subnational estimates of income and poverty for places, counties, and metropolitan statistical areas with a population of at least 65,000 as well as for all states and the nation. The sample size of the ACS is about 3.5 million addresses per year, making this survey exceptionally useful for subnational analyses. Three-year ACS estimates were made available for 2008 through 2013 for areas and subpopulations as small as 20,000. Five-year ACS estimates became available for census tracts/block groups and for small subgroups of the population starting in 2010. More information on the ACS is located at: <http://www.census.gov/acs/www/>.

The SIPP is useful for understanding the dynamics of income and poverty (changes in income and poverty rates for the same households over three or four years) and for examining the nature and frequency of poverty spells. The SIPP also permits researchers to look at monthly or quarterly changes in income and poverty.

Decennial Census Long-Form estimates offer the best measure of change between 1990 and 2000 for subnational areas and for subpopulations. Since the ACS replaced the Long-Form, the 2010 Census does not provide income and poverty estimates. Since 2010, ACS 5-year estimates provide data at the census tract level that are comparable to earlier Decennial Census estimates.